

METHOD FOR FABRICATING A DEEP TRENCH CAPACITOR

Abstract

This invention pertains to a method for making a trench capacitor of DRAM devices. A single-sided spacer is situated on the sidewall of a recess at the top of the trench capacitor prior to the third polysilicon deposition and recess etching process. The single-sided spacer is formed on the second polysilicon layer and collar oxide layer. Then, the third polysilicon deposition and recess etching process is carried out to form a third polysilicon layer on the second polysilicon layer. Dopants of the third polysilicon layer are blocked from diffusing to the substrate by the single-sided spacer.